INSTRUCTIONS FOR PREPARATION AND SUBMITTAL

OF

TECHNICAL PROPOSALS

FOR

FEDERAL LEAKING UNDERGROUND STORAGE TANK

CONTRACT EVALUATION

AUGUST 2009

UNDERGROUND STORAGE TANK PROGRAM

ALABAMA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

P.O. BOX 301463

MONTGOMERY, ALABAMA 36130-1463

INSTRUCTIONS FOR PREPARATION AND SUBMITTAL
OF TECHNICAL PROPOSALS
FOR FEDERAL LEAKING UNDERGROUND STORAGE TANK
CONTRACT EVALUATION
FY 2009

The Alabama Department of Environmental Management (ADEM) is initiating procurement procedures to obtain hydrogeological and engineering services for the performance of emergency response activities, to provide a temporary source of drinking water, to perform soil and groundwater quality assessments, develop risk-based corrective action limits, and to develop and implement soil and groundwater corrective action plans at sites where a petroleum release has occurred from an underground storage tank system. This work is funded through the Federal Leaking Underground Storage Tank (LUST) Trust Fund and the American Reinvestment and Recovery Act (ARRA) and is subject to the procurement regulations contained in 40 CFR Part 31. The ADEM is currently seeking four or more firms with which to contract to perform site activities.

The contracts will be funded with Federal Leaking Underground Storage Tank Trust Funds granted to the state on an annual basis, as well as funds from the American Recovery and Reinvestment Act. All firms under contract will be required to provide information to the Department to assist in the reporting requirements of the Recovery Act. The requirements will include, but not be limited to, funds paid to each contractor, site work performed and jobs retained and/or created as a result of the ARRA funds. Details of the reporting requirements will be stated in the contract. Selected firms will be required to perform site work at an accelerated pace to meet Recovery Act grant requirements.

The following instructions for preparation of the technical proposal have been designed to minimize preparation cost and response time. These instructions will also help to ensure that all proposals are reviewed and evaluated in a consistent manner. Information submitted in a form inconsistent with these instructions could result in a loss of credit. Proposal information relating to personnel and past experience that is not in the required format will not be given full credit.

One original signed transmittal letter must accompany three (3) copies of the technical proposal submittal. This letter shall bear the name, title, address, and telephone number of the official contact and an alternate contact. The individual(s) named shall be available to be contacted by telephone and attend meetings as required for negotiations and contract signing.

This is a competitive process which will result in the awarding of contracts to the most qualified firms.

I. The technical proposal should contain sections addressing the following five areas in sequential order indicated below:

A. GENERAL INFORMATION REGARDING FIRM

Provide the following information in a clear and concise format:

1) Firm name, street address, mailing address, phone number, and fax number.

2) Name of proposed key contact and alternate contact. Include name, title, address, phone number and email address.

3) Date of firm's incorporation and/or organization.

4) Is firm registered with the Alabama Secretary of State's Office and the Alabama Department of Revenue Franchise Tax Division? (Each contractor should contact these two agencies to determine if their firm will be required to be registered with the agencies.)

5) Does the firm hold an Alabama General Contractor's License? This is a requirement for consideration for this contract. Indicate the status of the license.

6) Does firm have a Certificate of Authorization from the Alabama State Board of Licensure for Professional Engineers and Land Surveyors?

7) Provide the name of the individual responsible for preparation of Section C of the proposal.

8) Provide proof of insurance in the amounts listed under ADEM Admin. Code R. 335-6-16-.16(1)(b).

9) Each firm submitting a proposal must obtain all other applicable licenses, permits, etc., to provide the services described in these instructions in conformance with state and local laws and regulations. A statement verifying that the applicable licenses, permits, etc., have been obtained by the applicant must be provided in the proposal.

B. BACKGROUND AND EXPERIENCE OF PERSONNEL WHO WILL PERFORM THE WORK

Using the attached Form A format, provide a resume of all key professional personnel to be used for these projects, including resumes of all key subcontractor professional personnel to be used. Clearly specify which personnel are in-house and which are subcontracted. Include their qualifications, specialized experience gained during their entire career, and their proposed responsibilities for these projects. The "Project Responsibilities" column under Item i must be completed by designating an "S" for supervision, "M" for project management, "D" for design, "R" for report and plan preparation, "F" for field work, or "O" for other. One or more of these categories may be designated by using all appropriate letters. **Please be aware that if the Form A format is not used, full credit will not be given for this criterion.**

A professional engineer registered in the State of Alabama must be included in this section who has the necessary experience to prepare a corrective action plan and under whose registration plans and specifications for corrective action proposals would be submitted. The registration number of the Professional Engineer(s) must be included in this submittal. Any company which directly employs a professional engineer to perform these services must obtain a certificate of authorization from the Board of Registration for Engineers and Land Surveyors. The registration number and a copy of the Certificate of Authorization must be included in the submittal.

A professional geologist licensed in the State of Alabama must be included in this section that has the necessary experience to perform geological evaluations at underground storage tank release sites. The license number of the Professional Geologist(s) must be included in this submittal.

Each approved firm must also have a current Alabama General Contractor's License to be considered for a contract. Please visit www.genconbd.alabama.gov for more information regarding this requirement.

This discussion must adequately demonstrate that sufficient technical staff is available to meet investigation and corrective action requirements in a timely and technically adequate manner. **Proposals must include at least one full time professional in the area of geological support and one full time professional in the area of engineering support (unless one individual demonstrates an adequate educational background and experience base to satisfy both areas of concern) or full credit cannot be given.**

Technical Proposals not including an Alabama Registered Professional Engineer as well as proposals not including an Alabama Licensed Professional Geologist will be considered incomplete and will not be evaluated.

Please note, item f on Form A must contain the type of degree(s) each person has earned (BS, BA, MS, etc.), the subject area (Biology, Geology, Engineering, etc.), the year the degree(s) was granted, and the college/university from which the degree(s) was obtained.

Please attach to Form A a listing of risk assessment, risk management, and risk-based corrective action training your staff has received. The information should include who has received the training, the name of the training course, where the training course was held, who taught the course and when the course was held. Due to the implementation of the risk-based corrective action (RBCA) approach in the Alabama UST program, this background information is of vital importance in determining if your firm has the appropriate training in this area of expertise.

Also, provide a listing of risk assessment evaluations that your firm has performed on sites located in Alabama or in other states. Please indicate the UST incident number, facility I.D. number for the site, and the name and location of the site.

C. KNOWLEDGE OF TECHNICAL CONSIDERATIONS NECESSARY TO PERFORM PETROLEUM CONTAMINATION ASSESSMENTS AND REMEDIATION

Describe the technical approach that would be used to assess and remediate a petroleum contaminated site where both soil and groundwater have been impacted. At a minimum, a discussion of the following must be presented, or the discussion will be considered incomplete and will not be given full credit. **The author or authors of this discussion must be indicated and the resume of the author(s) must be included in Section B above.** Please present the following discussion in the sequential order indicated below:

1. Describe methods and procedures that would be used for initial abatement. This should include but not be limited to a thorough description of emergency response actions, vapor abatement, and free product removal.

2. Describe the methods and procedures that would be used to conduct an initial site investigation at a site. Discuss how field screening methods might be applied during assessment activities to provide for faster and less costly site assessment.

3. Discuss how a comprehensive investigation will be conducted to determine full horizontal and vertical extent of contamination. Include a discussion on the determination of rate and direction of contaminant migration and appropriate testing procedures for determining aquifer characteristics.

4. Provide a discussion of different monitoring well types and the proper use of each type in the assessment of groundwater contamination.

5. Provide a description of the various hydrogeologic regimes in the State of Alabama and how these regimes affect the way soil and groundwater assessments of petroleum contaminated sites should be conducted.

6. Discuss corrective action technologies for soil and groundwater including the applicability, advantages, and disadvantages of different methods. Discuss innovative technologies and how these technologies may or may not be technically appropriate to provide cleaner, faster and more effective cleanups based on site conditions.

7. Include a discussion on risk-based corrective action and the criteria and procedures that would be considered in evaluating risk and developing risk-based target levels for remediation at petroleum sites.

8. Discuss how the safety of personnel would be addressed while working at a petroleum contaminated site as well as any safety training required, safety equipment required under different site conditions and necessary public safety contacts that will be notified in case of an emergency.

D. PROJECT ORGANIZATION AND MANAGEMENT

A discussion of the firm's organizational capabilities as well as an organizational chart must be included **which clearly represents the firm's capability to provide all the services indicated in Attachment I.** All subcontractors must be identified, and their intended scope of work clearly detailed. List which firms are MBE or WBE firms, if applicable. The organizational chart must clearly indicate which individuals and their associated firms will be responsible for the following response actions:

- Emergency Response: (Firm name and address)
- Tank/Line Testing Services: (Firm name and address)
- Analytical Services: (Firm name and address)
- Groundwater Investigative Services: (Firm and individual names, and addresses)
    - Geologists:
    - Engineers:
    - Other:
- Groundwater and Soils Corrective Action Services: (Firm and individual names, and addresses)
    - Geologists:

- Engineers:
- Other:

- Drilling Services: (Firm name and address)

- Management methods must be discussed relating to:

  - Use of Subcontractors
  - Cost Control
  - Schedule Control
  - Project Tracking
  - Data Management

Submittal of cost data is not required at this time.

Selected firms will be required to submit a Quality Assurance Project Plan for site work that outlines the firm's procedures that ensure quality data is collected and submitted to the Department.

E. PAST PERFORMANCE OF INVESTIGATIVE AND CORRECTIVE ACTION SERVICES AT PETROLEUM CONTAMINATED SITES OR SITES WITH SIMILAR ORGANIC SOIL AND GROUNDWATER CONTAMINATION

Using the attached Form B format, list sites where abatement, investigative and/or corrective action services beyond soil excavation have been provided during the last three (3) years. Please list as many sites as possible on each sheet. UST sites should be listed before non-UST groundwater sites. Experience gained while previously employed by another firm may be indicated, as long as it was gained within the three year time period indicated above.

The Department will be looking for significant demonstration of experience in the areas of hydrogeological investigations and corrective actions. The "Project Personnel" column should only list the names of the project personnel who have a resume included in Section B above. If the project listed was performed while previously employed by another firm, then only the name of the one employee gaining that experience should be listed under "Project Personnel". The "Project Responsibilities" column on the form must be completed for all personnel indicated for each project. Indicate responsibilities by designating an "S" for supervision, "M" for project management, "D" for design, "R" for report and plan preparation, "F" for field work, and "O" for other. The "UST OR GW Project" column should list either "UST" for those sites where investigations/remediation occurred due to releases from USTS and should list "GW" for those sites where investigations/remediation occurred due to releases from non-UST sources.

The percent of work that is accomplished by in-house personnel must be indicated. In other words, indicate the percent of all work that is not subcontracted to other firms. If the work listed was performed while employed by another firm, indicate zero percent in this column. Finally, mark an "X" on the form under each specific experience category that is applicable to experience gained at each site.

II. Firms Will be Considered for Interviews and Potential Contracts Upon Satisfaction of the Following:

A. The firm receives a satisfactory rating from the Department's evaluation of the technical proposal using the following criteria.

1. Background and Experience of Personnel Who Will Perform the Work

2. Knowledge of Technical Considerations Necessary to Perform Petroleum Contamination Assessments

3. Project Organization and Management

4. Past Performance of Investigative and Corrective Action Services at Petroleum Contaminated Sites or Sites with Similar Organic Soil and Groundwater Contamination

B. Interviews will be conducted at the ADEM Montgomery offices with representatives of the firms whose proposals received the highest evaluations. The number of contracts awarded is at the discretion of the Department. No minimum amount of work is guaranteed to result from the execution of a contract to provide the identified services.

Firms will be expected to adhere to the current Alabama Aboveground and Underground Storage Tank Trust Fund reasonable rates in effect at the time of the contract award.

III. General Information

The deadline for receipt of Technical Proposals is **September 18, 2009 5:00 p.m.**

A. **Three copies** of the technical proposals shall be submitted by certified mail or other delivery method which provides the applicant a receipt to:

Ms. Dorothy Malaier
ADEM Groundwater Branch
Post Office Box 301463
Montgomery, AL 36130-1463

Physical Address:
ADEM
1400 Coliseum Boulevard
Montgomery, Alabama 36110

B. One original signed transmittal letter must accompany all copies of the technical proposal submitted. This letter shall provide the name, title, address and telephone number of the official contact and the alternate contact.

C. Technical proposals will be independently evaluated by members of a review committee consisting of Department supervisory and/or senior staff members and according to the criteria of Section II-A. of these instructions. The top ranked firms will be invited for interviews for contract consideration.

D. The Department will acknowledge in writing the receipt of all technical proposals. The evaluation process is expected to be completed by **October 22, 2009**. The Department will notify all firms submitting proposals of the results of the evaluation.

E. Misrepresentation of any information in a proposal or future technical submittal shall be cause for disqualification of a firm from further contract consideration.

F. The Department limits pass-through charges of subcontracted work to a maximum of 5% of the subcontracted charges.

G. The Department limits mileage reimbursement for one trip to 450 miles one way and 900 miles round trip.

H. Contractors selected through this procurement process will be expected to make reasonable attempts to notify potential Minority Business Enterprises (MBE) and Women Business Enterprises (WBE) of subcontracting opportunities when their proposals for services are sufficient and financially competitive. Efforts to notify and obtain services of these firms must be documented to the Department on a quarterly basis.

I. The Department has established reasonable rates for certain response actions under the Alabama Underground and Aboveground Storage Tank Trust Fund. Approval of costs for items not listed on the rate schedule will be evaluated on a case-by-case basis. The current rate schedule is located on the Department website at www.adem.alabama.gov.

J. Contracts will be for two-year periods. The submitted proposals will be used for 2 2-year contract periods.

K. Selected firms will be expected to provide proof of insurance in the amounts listed in ADEM Admin. Code R. 335-6-16-.16(1) (b).

L. To address questions regarding these instructions, please contact:

Dorothy S. Malaier, Chief
UST Corrective Action Section
Groundwater Branch
Land Division
P.O. Box 301463
Montgomery, Alabama 36130-1463
(334)270-5613
Fax (334)270-5631
dsm@adem.state.al.us

ATTACHMENT I

Firms that perform ADEM LUST Trust Fund work must have the capability of providing the following services for the Department:

1. Taking initial actions necessary to prevent further release of product to the environment; preventing further migration of the release substance into surrounding soils and groundwater; mitigating any additional fire and safety hazards; and remedying hazards posed by contaminated soils.

2. Performing initial site assessments.

3. Implementing free product removal, where free product is present.

4. Performing additional site assessments which determine the lateral and vertical extent of contamination necessary to fully evaluate routes of exposure and to develop corrective action limits for soil and groundwater.

5. Develop alternate corrective action limits based on the Alabama Risk-Based Corrective Action (ARBCA) approach.

6. Preparing and implementing a Corrective Action Plan, where required by the Department.

7. Providing an alternate or temporary source of drinking water where required by the Department.

8. Analyses of soil and groundwater in accordance with the ADEM and EPA protocols, either directly or through a subcontractor.

9. Preparation of cost proposals and payment requests for response actions in accordance with established ADEM policies and procedures.

ATTACHMENT II

ADEM ALABAMA TANK TRUST FUND REASONABLE RATE SCHEDULE

EFFECTIVE JUNE 2003

JUNE 3, 2009
"REVISED MAXIMUM ALLOWABLE LABOR RATES"

ONIS "TREY" GLENN, III
DIRECTOR

BOB RILEY
GOVERNOR

Alabama Department of Environmental Management
adem.alabama.gov
1400 Coliseum Blvd. 36110-2059 ♦ Post Office Box 301463
Montgomery, Alabama 36130-1463
(334) 271-7700
FAX (334) 271-7950

June 3, 2009

MEMORANDUM

TO: Alabama Tank Trust Fund Contractors

FROM: Dorothy Malaier, Chief
UST Corrective Action Section

RE: **Revised Maximum Allowable Labor Rates**
Alabama Underground and Aboveground Storage Tank Trust Fund
Effective Date - June 1, 2009

The Department is continuing to work with the Alabama Tank Trust Fund Contractors to prepare a revised rate schedule which will include a new procedure for the utilization of unit rates. This process is taking longer than anticipated, so revised labor rates have been prepared as shown below.

Contractors may begin using the new revised labor rates for cost proposals effective immediately. For cost proposals already received by the Department and not yet approved, the labor rates will be modified by the UST Corrective Action Section staff to afford the Tank Trust Fund Contractor the opportunity to utilize the revised rates.

The labor rates are as follows:

LABOR CATEGORY	HOURLY RATE
Licensed Professional Geologist	$105
Licensed Professional Engineer	$105
Project Manager	$90
Staff Geologist	$75
Staff Engineer	$75
Staff Scientist	$70
Technician	$55
Draftsperson	$55
Administrative Assistant	$45

Please note that these are the **maximum allowable labor rates for new cost proposals.** Rates submitted which are higher than these rates will be reduced on the cost proposals and the associated payment requests.

All payment requests should use the above listed rates as the **maximum** allowable rates. Payment requests which contain higher labor rates will be subject to reduction.

The Department will continue to work with stakeholders to issue a revised Trust Fund rate schedule later this year that will utilize the unit rate concept.

Birmingham Branch
110 Vulcan Road
Birmingham, AL 35209-4702
(205) 942-6168
(205) 941-1603 (Fax)

Decatur Branch
2715 Sandlin Road, S. W.
Decatur, AL 35603-1333
(256) 353-1713
(256) 340-9359 (Fax)

Mobile Branch
2204 Perimeter Road
Mobile, AL 36615-1131
(251) 450-3400
(251) 479-2593 (Fax)

Mobile - Coastal
4171 Commanders Drive
Mobile, AL 36615-1421
(251) 432-6533
(251) 432-6598 (Fax)

Alabama Department of Environmental Management

ALABAMA TANK TRUST FUND

REASONABLE RATE SCHEDULE

June 2003

ALABAMA TANK TRUST FUND

REASONABLE RATE SCHEDULE

EFFECTIVE JUNE 1, 2003

The current Alabama Tank Trust Fund Reasonable Rate Schedule has been prepared to provide tank owners/operators and approved Alabama Tank Trust Fund Response Action Contractors with the reasonable allowable rates for certain activities listed. The enclosed list includes typical activities for which the Department has established reasonable allowable rates. Activities not listed or listed as site specific rates on the schedule will be evaluated through the cost proposal and payment request process and approval and reimbursement will be based on the typical rates charged for those types of activities.

The reasonable allowable rates have been established based on a review of ADEM payment requests received and based on surveys conducted by the Department of laboratories, contractors and consulting firms. For some activities, Tank Trust Fund Response Action Contractors may be able to charge lower rates than those listed on the attached pages. In this situation, the Tank Trust Fund Contractor should only charge the actual cost of conducting that activity. Tank Trust Fund activities should not be charged at a higher rate than would be typically charged at a non-Trust Fund site. The Department will only reimburse actual expenses and proper documentation must be submitted with the payment request in order to receive reimbursement.

This rate schedule will begin to be utilized for cost proposals received after June 1, 2003. Cost proposals approved prior to June 1, 2003 should adhere to the amount approved for that cost proposal.

GENERAL INFORMATION

Please note the brief description of the following Alabama Tank Trust Fund policies and procedures:

Eligibility of Releases

The Alabama Tank Trust Fund only covers motor fuel releases from aboveground and underground storage tank systems that are determined to be eligible for participation in the Trust Fund. Tank owners/operators are notified of eligibility by the Department at the time that the Department requires additional assessment and/or remediation activities to occur through the issuance of a "Notification of Requirement to Conduct Investigative and Corrective Action" letter.

Cost Proposals

It is a regulatory requirement that a cost proposal is submitted which proposes the cost for performing required site activities. In order to receive reimbursement for site costs, the cost proposals shall be submitted prior to the initiation of the site activities, unless otherwise directed by the Department. The Department will review the scope of work and the proposed costs contained in the cost proposal and will issue a letter of approval to the tank owner/operator.

Cost Proposal Addendum

Where the owner/operator requests an increase in the scope of work and wishes to have those costs covered under the Trust Fund, a cost proposal addendum may be requested to cover additional scopes of work or unforeseen site circumstances. The owner/operator or his Trust Fund Contractor should notify the appropriate ADEM UST Corrective Action Section Project Manager immediately and request an addendum to cover additional eligible and reasonable costs.

Payment Requests

Payment requests are required to be submitted within one year of the date of the associated cost proposal. Scopes of work covered by an approved cost proposal should not be proposed which include site activities that will extend beyond the one-year period. Timesheets or other adequate detailed labor documentation must be submitted with the payment request.

Two copies of the payment requests should be submitted to the following address:

Alabama Department of Environmental Management
Attention: Permits & Services Administrative Section
Post Office Box 301463
Montgomery, Alabama 36130-1463

For further information regarding Trust Fund issues, please refer to the ADEM Administrative Code R.335-6-16 regulations, the "Alabama Underground Storage Tank Release Investigation and Corrective Action" Guidance Manual, or contact any of the ADEM UST Corrective Action Section project managers at (334) 270-5655.

ALABAMA TANK TRUST FUND REASONABLE RATE SCHEDULE

EFFECTIVE 6/1/2003

ANALYTICAL

	METHOD	SOIL	WATER
TPH	5520	$60	
	418.1/9071	$50	
	MOD. 8015 GRO	$80	
	MOD 8015 DRO	$95	
	4030 (ENSYS)	$35-$47	
	4030 (Other Company)	Site Specific	
LEAD	239.2/7420/7421	$25	$25
	6010	$15	$15
BTEX	8021	$60	$60
	602		$65
	624		$95
BTEX + MTBE	8021	$65	$65
PAH	610		$130
	8100	$130	$120
	8310	$160	$150
	625		$260
VOLATILES	601		$100
	8010	$105	$100
NITRATE	353.3/9200		$20
SULFATE	375.4/9036/9038		$20
IRON	200.7/6010		$20
MOISTURE CONTENT		$15	
GRAIN SIZE ANAL.		$40	
DRY BULK DENSITY		$20	
FRAC. ORG. CARBON		$40	
SOIL POROSITY		$20	
PORTABLE GC		$150/DAY	$150/DAY

Sample Containers for lab analyses	Included in Lab Cost	Included in Lab Cost

FIELD EQUIPMENT	**RATE**	**UNIT**
Explosimeter	$10	Day
Oxygen Meter	$10	Day
FID	$50	Day
PID	$50	Day
Dissolved Oxygen Meter	$10	Day
pH/Conductivity Meter	$10	Day
Water Level Indicator	$10	Day
Oil/Water Interface Probe	$10	Day
Disposable Bailers	$7	Bailer

SAFETY EQUIPMENT	**RATE**	**UNIT**
LEVEL "D" (includes gloves)	$10	MAN/DAY
LEVEL "C"	$20	MAN/DAY
LEVELS "A" OR "B"	AT REASONABLE COST	MAN/DAY

DRILLING	**RATE**	**UNIT**
MOB AND DEMOB		
Lump Sum Base	$200	Trip
Mileage	$1	Mile
Maximum Mob and Demob	$500	Trip
2" Monitoring Wells (HSA)	$41	Foot
4" Monitoring Wells (HSA)	$43	Foot
Soil Boring (HSA)	$18-$20	Foot
Hand Augered Borings/Temporary Wells	Materials	Well
Rock Drilling/Coring	Site Specific Rate	Foot
6" Recovery Wells	Site Specific Rate	Foot
Additional Soil Samples	$20	Sample
Telescoping Wells	Site Specific Rate	Foot
Direct Push Technologies	Site Specific Rate	Day

OFFICE EXPENSES	RATE	UNIT
Photocopies of Required Documents	$0.05	Page
Fax Transmittals to ADEM (When Required)	At Cost	Page
Long Distance Phone Charges	At Cost	Call
Cellular Phone Charges	At Cost	Call
Overnight Mail (When Required)	At Cost	Package
Shipping Costs	At Cost	Item/Box
Film Developing	At Cost	Roll
55-Gallon Drums	$30	Drum
MILEAGE	$0.36	Mile
PER DIEM *		
6 - 12 Hours	11.25	Day
> 12 Hours, but not overnight	$30	Day
Overnight (Meals and Lodging)	$75	Day

* Covers field activities only. Overnight stay allowed if greater than 50 miles from homebase and when outside the firm's homebase metropolitan area.

PASS-THROUGH CHARGES:

Limited to maximum of five (5%) percent for each subcontractor invoice. Applicable to subcontracted costs only or for capital expenditures. There is no longer a "cap" on pass-through charges. Applicable to:

Subcontracted Drilling
Subcontracted Analytical Services
Excavation/Transportation/Disposal of contaminated Soils and/or Groundwater at Treatment/Disposal Facility
Subcontracted On-Site Treatment Service
Capital Expenditures
Utility Bills for remediation systems

NON-REIMBURSABLE ITEMS

Closure Site Assessments
Environmental Audits
Tank Testing (Unless eligible by Rule 335-6-16-.08(3))
Tank System Removals
Tank System Installations
Soil removal costs associated with Closure Activities
Local Phone Charges
Office Equipment (Includes computers)
Camera Rentals or purchases
Vehicle Rental
Fuel Charges
Survey Equipment
Hand Augers and soil samplers
Tool Kits and Hand Tools
Temperature probes
Rush charges not approved by ADEM
Charges presented for payment which exceed actual costs
Charges presented for payment which are not documented on invoices
Charges associated with a non-motor fuel release
Charges associated with a release discovered prior to 10/01/88 for a UST Release
Charges associated with a release discovered prior to 8/1/93 for an AST Release

There are other items that are non-reimbursable. These will be identified through the cost proposal approval process.

NOTE: All payment requests must be submitted within one year of the date of the associated approved cost proposal in order to be eligible for reimbursement.

REASONABLE RATE SCENARIOS

In addition to establishing individual reasonable rates on a unit-type basis, the Department has also developed response action scenarios that indicate based on the Department's review of previously submitted response action reports and payment requests, the costs for contractor personnel to conduct such activities. Various scenarios have been developed and these scenarios are located in the pages following this section.

The scenarios are based on a typical Alabama Tank Trust Fund Contractor with five major job classifications: Clerical, Draftsperson, Technician, Staff Geologist/Engineer, Project Manager, and Professional Geologist (PG)/Professional Engineer (PE). These job categories and their associated average rates were utilized to develop the scenarios. The scenarios consist of four parts: Report/Plan Development, Fieldwork activities, Travel Time and Cost Proposal/Payment Request Preparation.

The purpose of the scenarios is to provide Alabama Tank Trust Fund Contractors with guidance for the preparation of cost proposals. The Department recognizes that each firm may have different personnel and personnel rates within their respective firms. These scenarios illustrate an overall cost for the activity. Individual rates may differ, but the cost for the activity should be similar to these scenarios unless the scope of work is significantly different.

ALABAMA TANK TRUST FUND REPORT & PLAN DEVELOPMENT SCENARIOS

PRELIMINARY INVESTIGATION REPORT

	HOURS	*RATE*	*REASONABLE COST*
PROJECT MGR	3	$ 80	$ 240
PE/PG	3	$ 95	$ 285
STAFF GEOLOGIST/ENGINEER	32	$ 70	$ 2,240
DRAFTSMAN	16	$ 45	$ 720
CLERICAL	6	$ 37	$ 222
			$ 3,707

SECONDARY INVESTIGATION PLAN

	HOURS	*RATE*	*REASONABLE COST*
PROJECT MGR	1	$ 80	$ 80
PE/PG	2	$ 95	$ 190
STAFF GEOLOGIST/ENGINEER	4	$ 70	$ 280
DRAFTSMAN	2	$ 45	$ 90
CLERICAL	2	$ 37	$ 74
			$ 714

SECONDARY INVESTIGATION REPORT

	HOURS	*RATE*	*REASONABLE COST*
PROJECT MGR	2	$ 80	$ 160
PE/PG	4	$ 95	$ 380
STAFF GEOLOGIST/ENGINEER	38	$ 70	$ 2,660
DRAFTSMAN	14	$ 45	$ 630
CLERICAL	10	$ 37	$ 370
			$ 4,200

GROUNDWATER MONITORING PLAN

	HOURS	*RATE*	*REASONABLE COST*
PROJECT MGR	1	$ 80	$ 80
PE/PG	1	$ 95	$ 95
STAFF GEOLOGIST/ENGINEER	2	$ 70	$ 140
DRAFTSMAN	0	$ 45	$ -
CLERICAL	2	$ 37	$ 74
			$ 389

GROUNDWATER MONITORING REPORT - ONE SAMPLING EVENT
Quarterly Report

	HOURS	*RATE*	*REASONABLE COST*
PROJECT MGR	1	$ 80	$ 80
PE/PG	1	$ 95	$ 95
STAFF GEOLOGIST/ENGINEER	6	$ 70	$ 420
DRAFTSMAN	2	$ 45	$ 90
CLERICAL	2	$ 37	$ 74
			$ 759

GROUNDWATER MONITORING REPORT - TWO SAMPLING EVENTS
Semi-Annual Report

	HOURS	*RATE*	*REASONABLE COST*
PROJECT MGR	2	$ 80	$ 160
PE/PG	2	$ 95	$ 190
STAFF GEOLOGIST/ENGINEER	12	$ 70	$ 840
DRAFTSMAN	4	$ 45	$ 180
CLERICAL	4	$ 37	$ 148
			$ 1,518

FREE PRODUCT REMOVAL PLAN

	HOURS	*RATE*	*REASONABLE COST*
PROJECT MGR	1	$ 80	$ 80
PE/PG	1	$ 95	$ 95
STAFF GEOLOGIST/ENGINEER	4	$ 70	$ 280
DRAFTSMAN	1	$ 45	$ 45
CLERICAL	2	$ 37	$ 74
			$ 574

FREE PRODUCT REMOVAL REPORT

	HOURS	*RATE*	*REASONABLE COST*
PROJECT MGR	2	$ 80	$ 160
PE/PG	2	$ 95	$ 190
STAFF GEOLOGIST/ENGINEER	6	$ 70	$ 420
DRAFTSMAN	2	$ 45	$ 90
CLERICAL	2	$ 37	$ 74
			$ 934

AQUIFER TEST REPORT

	HOURS	*RATE*	*REASONABLE COST*
PROJECT MGR	2	$ 80	$ 160
PE/PG	4	$ 95	$ 380
STAFF GEOLOGIST/ENGINEER	12	$ 70	$ 840
DRAFTSMAN	2	$ 45	$ 90
CLERICAL	4	$ 37	$ 148
			$ 1,618

SOIL VAPOR EXTRACTION PILOT TEST REPORT

	HOURS	*RATE*	*REASONABLE COST*
PROJECT MGR	4	$ 80	$ 320
PE/PG	4	$ 95	$ 380
STAFF GEOLOGIST/ENGINEER	12	$ 70	$ 840
DRAFTSMAN	2	$ 45	$ 90
CLERICAL	4	$ 37	$ 148
			$ 1,778

CAP DEVELOPMENT - RNA

	HOURS	*RATE*	*REASONABLE COST*
PROJECT MGR	3	$ 80	$ 240
PE/PG	2	$ 95	$ 190
STAFF GEOLOGIST/ENGINEER *	16	$ 70	$ 1,120
DRAFTSMAN	2	$ 45	$ 90
CLERICAL	4	$ 37	$ 148
			$ 1,788

* 8 hours less for Staff Geo/Eng with no modeling performed

CAP DEVELOPMENT -
SOIL EXCAVATION ONLY

	HOURS	*RATE*	*REASONABLE COST*
PROJECT MGR	2	$ 80	$ 160
PE/PG	2	$ 95	$ 190
STAFF GEOLOGIST/ENGINEER	6	$ 70	$ 420
DRAFTSMAN	2	$ 45	$ 90
CLERICAL	4	$ 37	$ 148
			$ 1,008

CAP DEVELOPMENT-
GROUNDWATER & SOIL REMEDIATION

	HOURS	*RATE*	*REASONABLE COST*
PROJECT MGR	4	$ 80	$ 320
PE/PG	14	$ 95	$ 1,330
STAFF GEOLOGIST/ENGINEER	82	$ 70	$ 5,740
DRAFTSMAN	24	$ 45	$ 1,080
CLERICAL	16	$ 37	$ 592
			$ 9,062

ARBCA DATA ACQUISITION PLAN (DAP)

	HOURS	*RATE*	*REASONABLE COST*
PROJECT MGR	2	$ 80	$ 160
PE/PG	2	$ 95	$ 190
STAFF GEOLOGIST/ENGINEER	8	$ 60	$ 480
DRAFTSMAN	2	$ 35	$ 70
CLERICAL	2	$ 27	$ 54
			$ 954

ARBCA TIER 1 REPORT

	HOURS	*RATE*	*REASONABLE COST*
PROJECT MGR	8	$ 80	$ 640
PE/PG	8	$ 95	$ 760
STAFF GEOLOGIST/ENGINEER	40	$ 70	$ 2,800
DRAFTSMAN	12	$ 45	$ 540
CLERICAL	4	$ 35	$ 140
			$ 4,880

* Includes reporting of information collected during DAP implementation

ARBCA TIER 2 REPORT
(Without decay)

	HOURS	*RATE*	*REASONABLE COST*
PROJECT MGR	1	$ 80	$ 80
PE/PG	3	$ 95	$ 285
STAFF GEOLOGIST/ENGINEER	8	$ 70	$ 560
DRAFTSMAN	1	$ 45	$ 45
CLERICAL	4	$ 37	$ 148
			$ 1,118

* Determining biodecay rate, add 24 hr

MONITORING WELL ABANDONMENT PLAN & REPORT

	HOURS	*RATE*	*REASONABLE COST*
PROJECT MGR	1	$ 80	$ 80
PE/PG	1	$ 95	$ 95
STAFF GEOLOGIST/ENGINEER	2	$ 70	$ 140
DRAFTSMAN	0	$ 45	$ -
CLERICAL	1	$ 35	$ 35
			$ 350

SYSTEM PURCHASE REPORT

Letter stating purchase of system has occurred*

	HOURS	*RATE*	*REASONABLE COST*
PROJECT MGR	0	$80	$0
PE/PG	1	$95	$95
STAFF GEOLOGIST/ENGINEER	0	$70	$0
DRAFTSMAN	0	$45	$0
CLERICAL	1	$37	$37
			$132

*Applicable for firms who submitted an individual cost proposal for system purchase only

ENGINEERED CA SYSTEM INSTALLATION REPORT

	HOURS	*RATE*	*REASONABLE COST*
PROJECT MGR	16	$80	$1,280
PE/PG	16	$95	$1,520
STAFF GEOLOGIST/ENGINEER	22	$70	$1,540
DRAFTSMAN	8	$45	$360
CLERICAL	6	$37	$222
			$4,922

SEMR QUARTERLY REPORT - First Report

Submitted after first three months of O&M

Covers 3 months of O&M

	HOURS	*RATE*	*REASONABLE COST*
PROJECT MGR	8	$80	$640
PE/PG	8	$95	$760
STAFF GEOLOGIST/ENGINEER	36	$70	$2,520
DRAFTSMAN	4	$45	$180
CLERICAL	4	$37	$148
			$4,248

SEMR QUARTERLY REPORT - Subsequent Report
Submitted for three months of O&M

	HOURS	*RATE*	*REASONABLE COST*
PROJECT MGR	8	$80	$640
PE/PG	8	$95	$760
STAFF GEOLOGIST/ENGINEER	24	$70	$1,680
DRAFTSMAN	2	$45	$90
CLERICAL	4	$37	$148
			$3,318

SEMR SEMI-ANNUAL REPORT - First Report
Submitted after first six months of O&M
Covers 6 months of O&M

	HOURS	*RATE*	*REASONABLE COST*
PROJECT MGR	16	$80	$1,280
PE/PG	16	$95	$1,520
STAFF GEOLOGIST/ENGINEER	60	$70	$4,200
DRAFTSMAN	6	$45	$270
CLERICAL	8	$37	$296
			$7,566

SEMR SEMI-ANNUAL REPORT - Subsequent Reports
Covers 6 months of O&M

	HOURS	*RATE*	*REASONABLE COST*
PROJECT MGR	16	$80	$1,280
PE/PG	16	$95	$1,520
STAFF GEOLOGIST/ENGINEER	48	$70	$3,360
DRAFTSMAN	4	$45	$180
CLERICAL	8	$37	$296
			$6,636

RNA QUARTERLY IMPLEMENTATION REPORT (NAMR) - 1st Report
Submitted after first 3 month period of RNA monitoring
One sampling event

	HOURS	*RATE*	*REASONABLE COST*
PROJECT MGR	2	$80	$160
PE/PG	1	$95	$95
STAFF GEOLOGIST/ENGINEER	16	$70	$1,120
DRAFTSMAN	2	$45	$90
CLERICAL	2	$37	$74
			$1,539

RNA QUARTERLY IMPLEMENTATION REPORT (NAMR) - Subsequent Report

Submitted quarterly

One sampling event

	HOURS	*RATE*	*REASONABLE COST*
PROJECT MGR	2	$80	$160
PE/PG	1	$95	$95
STAFF GEOLOGIST/ENGINEER	8	$70	$560
DRAFTSMAN	2	$45	$90
CLERICAL	2	$37	$74
			$979

RNA SEMI-ANNUAL IMPLEMENTATION REPORT (NAMR) - First Report

Submitted semi-annually

Covers 6 month period of RNA monitoring (2 sampling events)

	HOURS	*RATE*	*REASONABLE COST*
PROJECT MGR	4	$80	$320
PE/PG	2	$95	$190
STAFF GEOLOGIST/ENGINEER	24	$70	$1,680
DRAFTSMAN	4	$45	$180
CLERICAL	4	$37	$148
			$2,518

RNA SEMI-ANNUAL IMPLEMENTATION REPORT (NAMR) - Subsequent Report

Submitted semi-annually

Covers 6 month period of RNA monitoring (2 sampling events)

	HOURS	*RATE*	*REASONABLE COST*
PROJECT MGR	4	$80	$320
PE/PG	2	$95	$190
STAFF GEOLOGIST/ENGINEER	16	$70	$1,120
DRAFTSMAN	4	$45	$180
CLERICAL	4	$37	$148
			$1,958

ALABAMA TANK TRUST FUND COST PROPOSAL AND PAYMENT REQUEST DEVELOPMENT SCENARIOS

The following reasonable rates are for the preparation of cost proposals and payment requests for the activities listed. For those activities not listed, comparisons can be made to a similar "level of effort" activity and that amount can be utilized and will be reviewed by the ADEM.

Activity

			PROJ MGR	CLERICAL
			$ 80.00	$ 37.00
Pre-Approved Preliminary Investigation	Cost Proposal	$ 117	1	1
	Payment Request	$ 394	4	2

			PROJ MGR	CLERICAL
			$ 80.00	$ 37.00
Preliminary Investigation	Cost Proposal	$ 394	4	2
Secondary Investigation Plan/Report	Payment Request	$ 394	4	2
ARBCA Data Acquisition Plan				
ARBCA Data Acquisition Plan and Tier 1/2 Reports				
Corrective Action Feasibility Study				
(Aquifer Testing, SVE test, etc.)				
Engineered System CA O&M Report				

			PROJ MGR	CLERICAL
			$ 80.00	$ 37.00
Groundwater Monitoring Plan	Cost Proposal	$ 234	2	2
Groundwater Monitoring or RNA Report	Payment Request	$ 234	2	2
Groundwater Monitoring Plan and Report				
Free Product Removal Plan and Report				
Free Product Removal Report				
Monitoring Well Abandonment Plan and Report				
ARBCA Tier 1 Report				
ARBCA Tier 2 Report				
ARBCA Tier 1 & 2 Report				
CAP Development: Soil, Groundwater and/or				
Free Product Removal (Engineered Design)				
CAP Development: Groundwater RNA				
CAP Development: Soil Excavation				

			PROJ MGR	CLERICAL
			$ 80.00	$ 37.00
System Purchase Report	Cost Proposal	$ 554	6	2
Engineered System CA Installation Report	Payment Request	$ 394	4	2

ALABAMA TANK TRUST FUND TRAVEL SCENARIOS

The Trust Fund will cover travel time necessary to travel directly from the consultant's home base to the job site and for a return trip. Where a consultant is performing a "round" of assessments, remediation activities or sampling, the travel time should be calculated from the last site where work was performed.

Maximum travel time per one-way trip is 8 hours (or 450 miles), not to exceed 16 hours (or 900 miles) per person round-trip.

Travel time will be approved based on reasonable number of personnel traveling to the job site and appropriate personnel classifications.

ALABAMA TANK TRUST FUND FIELD WORK SCENARIOS

Reasonable costs are listed for typical fieldwork scenarios. For necessary work that is not listed below, proposed rates and hours will be reviewed on an individual basis based on information supplied in the cost proposal.

PRELIMINARY INVESTIGATION
Install 4 wells

	HOURS	*RATE*	*REASONABLE COST*
PROJECT MGR	0	$ 80	$ -
PE/PG	0	$ 95	$ -
STAFF GEOLOGIST/ENGINEER	12	$ 70	$ 840
TECHNICIAN	24	$ 45	$ 1,080
			$ 1,920

SECONDARY INVESTIGATION
Install 8 wells; slug testing

	HOURS	*RATE*	*REASONABLE COST*
PROJECT MGR	0	$ 80	$ -
PE/PG	0	$ 95	$ -
STAFF GEOLOGIST/ENGINEER	32	$ 70	$ 2,240
TECHNICIAN	36	$ 45	$ 1,620
			$ 3,860

ONE GROUNDWATER MONITORING EVENT
(Example is for 8 wells)

	HOURS	*RATE*	*REASONABLE COST*
PROJECT MGR	0	$ 80	$ -
PE/PG	0	$ 95	$ -
STAFF GEOLOGIST/ENGINEER	0	$ 70	$ -
TECHNICIAN Site Set-Up	2	$ 45	$ 90
TECHNICIAN - Sampling *	8	$ 45	$ 360
			$ 450

* Approximately 1 hour per well

2 GROUNDWATER MONITORING EVENTS
(Example is for 8 wells)

	HOURS	*RATE*	*REASONABLE COST*
PROJECT MGR	0	$ 80	$ -
PE/PG	0	$ 95	$ -
STAFF GEOLOGIST/ENGINEER	0	$ 70	$ -
TECHNICIAN Site Set-Up	4	$ 45	$ 180
TECHNICIAN - Sampling *	16	$ 45	$ 720
			$ 900

* Approximately 1 hour per well

FREE PRODUCT REMOVAL EVENT - MEME

	HOURS	*RATE*	*REASONABLE COST*
PROJECT MGR	0	$ 80	$ -
PE/PG	0	$ 95	$ -
STAFF GEOLOGIST/ENGINEER	0	$ 70	$ -
TECHNICIAN	10	$ 45	$ 450
			$ 450

AQUIFER TEST 12 HOUR

	HOURS	RATE	REASONABLE COST
PROJECT MGR	0	$ 80	$ -
PE/PG	0	$ 95	
STAFF GEOLOGIST/ENGINEER	18	$ 70	$ 1,260
TECHNICIAN	20	$ 45	$ 900
			$ 2,160

AQUIFER TEST 24 HOUR

	HOURS	RATE	REASONABLE COST
PROJECT MGR	0	$ 80	$ -
PE/PG	0	$ 95	
STAFF GEOLOGIST/ENGINEER	30	$ 70	$ 2,100
TECHNICIAN	32	$ 45	$ 1,440
			$ 3,540

SOIL VAPOR EXTRACTION PILOT TEST

	HOURS	RATE	REASONABLE COST
PROJECT MGR	3	$ 80	$ 240
PE/PG	3	$ 95	$ 285
STAFF GEOLOGIST/ENGINEER	16	$ 70	$ 1,120
TECHNICIAN	16	$ 45	$ 720
			$ 2,365

MONITORING WELL ABANDONMENT
(Example is for 8 wells)

	HOURS	RATE	REASONABLE COST
PROJECT MGR	0	$ 80	$ -
PE/PG	0	$ 95	$ -
STAFF GEOLOGIST/ENGINEER	0	$ 70	$ -
TECHNICIAN *	8	$ 45	$ 360
			$ 360

* Approximately 1 hr per well

CAP DEVELOPMENT SITE VISIT - SOIL EXCAVATION

	HOURS	RATE	REASONABLE COST
PROJECT MGR	0	$ 80	$ -
PE/PG	0	$ 95	$ -
STAFF GEOLOGIST/ENGINEER	2	$ 70	$ 140
TECHNICIAN	0	$ 45	$ -
			$ 140

CAP DEVELOPMENT SITE VISIT - GW AND SOIL REMEDIATION

	HOURS	*RATE*	*REASONABLE COST*
PROJECT MGR	0	$ 80	$ -
PE/PG	0	$ 95	$ -
STAFF GEOLOGIST/ENGINEER	8	$ 70	$ 560
TECHNICIAN	0	$ 45	$ -
			$ 560

SYSTEM INSTALLATION ACTIVITIES WITH ONE GW SAMPLING EVENT

Project oversight w/ one sampling event

	HOURS	*RATE*	*REASONABLE COST*
PROJECT MGR	16	$ 80	$ 1,280
PE/PG	8	$ 95	$ 760
STAFF GEOLOGIST/ENGINEER	56	$ 70	$ 3,920
TECHNICIAN	10	$ 45	$ 450
			$ 6,410

Sampling event assumes 8 wells

O&M FIELDWORK - 3 MONTHS OF O&M WITH 1 SAMPLING EVENT

	HOURS	*RATE*	*REASONABLE COST*
PROJECT MGR	8	$ 80	$ 640
PE/PG	0	$ 95	$ -
STAFF GEOLOGIST/ENGINEER	0	$ 70	$ -
TECHNICIAN	58	$ 45	$ 2,610
			$ 3,250

Sampling event assumes 8 wells

O&M FIELDWORK - 6 MONTHS OF O&M WITH 2 SAMPLING EVENTS

	HOURS	*RATE*	*REASONABLE COST*
PROJECT MGR	16	$ 80	$ 1,280
PE/PG	0	$ 95	$ -
STAFF GEOLOGIST/ENGINEER	0	$ 70	$ -
TECHNICIAN	116	$ 45	$ 5,220
			$ 6,500

Sampling event assumes 8 wells

ATTACHMENT III

FORM A AND B

These forms are available in spreadsheet format from the ADEM website.

FORM A - Brief Resume of Key Professionals such as Geologists, Engineers, and Environmental Scientists who will be active in Alabama Tank Trust Fund Projects

a. Name and Title:

b. Name and Location of Firm with which associated:

c. Part Time ( ) Full Time ( ) employee with above firm

d. Name and location of other firms with which you are currently employed

e. Proposed Trust Fund Project Responsibilities

( ) Supervision ( ) Data Evaluation and Report Prep
( ) Project Management ( ) Field Work
( ) Design ( ) Other:

f. Education
Type of Degree and Subject:
Year Degree Awarded:
College/University Where Degree(s) Obtained:

g. Active Registrations. List State and License/Registration Numbers.

h. Years of Investigative/Corrective Action Experience _____

UST Experience: ____
Groundwater Experience: ____
With this firm: ____
With other firms: ____

i. Experience

Project Experience	Approximate Number of UST Projects	Approximate Number of Groundwater Projects	Use codes to identify the project responsibilities: (S) Supervision (M) Project Management (D) Design (R) Report Preparation (F) Field Work (O) Other
Initial Abatement Phase			
Emergency Response			
Tank and Line Testing			
Free Product Recovery			
Soil Excavation/Treatment/Disposal			
Investigation Phase			
UST Closure Assessment			
Water Well Inventory			
Soil Gas Investigation			
Soil Boring Logging			
Soil Boring Sampling			
Soil Analysis			
Monitoring Well Installation			
Monitoring Well Sampling			
GW Sample Analysis			
Potentiometric Surface Mapping			
Aquifer Characterization			
Indoor Vapor Intrusion Evaluation			
Corrective Action Phase			
Contaminant Plume Modeling			
Develop Corrective Action Plan			
Design GW Treatment System			
Design Soil Treatment System			
Install GW Treatment System			
Install Soil Treatment System			
O&M GW Treatment System			
O&M Soil Treatment System			
Risk Assessment			
Monitoring Well Abandonment			

FORM B - UST & Groundwater Project Experience

Project Experience						Initial Abatement Phase				Investigation Phase													Corrective Action Phase																		
Project Name and Location	UST or GW Project	Project Period	Project Personnel (Enter Initials of Key Personnel)	Project Responsibilities: (S) Supervision (M) Project Management (D) Design (R) Data Evaluation and Report Preparation (F) Field Work (O) Other	Percent of Project Completed In House (Percent Not Sub-Contracted)	Emergency Response	Tank and Line Testing	Free Product Recovery	Soil Excavation/Treatment	UST Closure Assessment	Water Well Inventory	Soil Gas Investigation	Soil Boring Logging	Soil Boring Sampling	Soil Analysis	Monitoring Well Installation	Monitoring Well Sampling	GW Sample Analysis	Potentiometric Surface Mapping	Aquifer Characterization	Indoor Vapor Intrusion Evaluation	Risk Assessments	Contaminant Plume Modeling	Develop Corrective Action Plan	Design GW Treatment System for:	Air Sparging	DPVE	Ozone Sparing	In-Situ Bioremediation	In-Situ Chemical Oxidation	Design Soil Treatment System for:	Excavation	Soil Vapor Extraction	DPVE	In-Situ Bioremediation	Soil Venting	Install Gw Treatment System	Install Soil treatment System	O&M Groundwater Treatment System	O&M Soil Treatment System	Monitoring Well Abandonment